24: Wright--237-238 (1938) 1942 Jivaro-1
116, 164

"The Jivaro Indians, known as Shuara among themselves, are popularly referred to as 'The Headhunters.' Those studied in the summer of 1938 were found dwelling in the jungles on both banks of the Upano River, about 75 miles south of Macas and east of Méndez, at the foot of the eastern slope of the Andes, Department of Oriente in Ecuador, South America.

For comparative study, two groups were selected, confined only to the males of varying ages from pre-adolescence to adulthood, selected at random.

Group number 1 consisted of 67 individuals, 56 adults and 11 pre-adolescents, who had had little to no contact with whites or with the world outside of their community. They subsisted on a diet consisting of bananas, both roasted and raw, herbs, roots, berries, nuts, yuca or manioc tuber, maize, fish, the meat of monkeys, wild pigs and birds. The mainstay of their diet is a manioc beer, prepared by the women, who masticate the manioc tuber, thoroughly incorporating it with saliva and then expectorating the solution into a container. After several days' fermentation, this beer is drunk in copious quantities by everyone including the small children. A persistent custom among most of the individuals [KS: in comparative study of teeth] is the chewing of the 'nashumbi' berry, identified botanically as Manettia coccinia, which produces a brownish lacquer-like coating over the teeth. It is not known if this inhibits tooth decay or not.

The examination of the teeth of these individuals [KS: in comparative study of teeth]

was attended with considerable difficulties since tribal customs prohibit the touching of the faces of children and women by strangers. Plaster casts of the teeth were made of the majority of those examined, but since dental instruments were not used, tabulation of tooth cavities was made by observation with the aid of a tongue depresser. The records made represent the types of tooth positions in the dental arches as a comparative, relative record rather than an absolute index. The results of this examination revealed 55 individuals or 82% of all with maxillary [238] center incisor teeth which were either rotated, overlapped, or otherwise misplaced in the dental arch. In some individuals there was also a misplacement of the mandibular central incisors. (Plates 1 and 2) In all adults of this group a complete permanent dentition was the rule, with no other misplacements of teeth than the affected central incisors having been noted. No explanation of the existence of this variation of the positions of the central incisors can be given other than that it is a persistent variable, which cannot be classified merely as a form of malocclusion.... In group 1, malocclusion, affecting the remaining dentition, was noted only in pre-adolescent boys and girls, although it was impossible to make plaster-cast records of most of those seen. This may offer some evidence for the contention that malocclusion of the teeth is associated with other systemic disfunctions. In an environment such as this one, where the rigors of existence are so severe and the securing of sustenance and

alleviative treatment for illness so uncertain, only those who are most fit to survive ever reach adulthood. This does not offer conclusive proof that most children with malocclud-ed teeth die before maturation, since it is possible for some tooth malpositions to cor-rect themselves in conjunction with the added growth spurt, which usually attends pub-escent and post-pubescent body alterations. However, the testimony of the fathers of families all coincided with the statement that children with irregular teeth rarely reached manhood, but died before that time.

Examination of the dentition of group 1 revealed a surprisingly low average of dental caries. 41 individuals or 61% had teeth entirely free from dental caries and of those re-maining, the greatest number of tooth cavities to be noted did not exceed five. Mandi-bular fourth molars were found in two individuals, but no other supernumerary or mis-sing teeth were noted. (Table 2.)"

24: Wright--238-240 (1938) 1942 Jivaro-1
116, 164, 177, 262

"Group No. 2 [KS: in comparative study of teeth] consisted of 80 males from pre-adolescent to middle adulthood, of which 34 were adults, and 46 pre-adolescent. This group lived in the mixed white and Indian settlement of Méndez, approximately three days journey from the region of Group No. 1. This latter group is of the same racial stock and family as those of Group No. 1, and originally lived in the same jungle environment, but are now under the protection of the missionaries and were living in and about the mission settlement. Their customs and food habits had been altered to meet the requirements of a quasi-civilized community. The usual diet of these individuals consisted of bananas as the only raw food, cooked meats, potatoes, rice and beans, bread, canned salmon, biscuits, coffee and carbonated beverages. Occasionally, cheap candy, cakes and sugar cane were available, the latter in ample quantities. Almost every individual suffered from [240] gastric disturbances. Because of local obstacles which could not be overcome, the making of plaster casts of their teeth and routine accurate dental examinations were virtually impossible, and cursory examinations for comparative study had to suffice. With the exception of three adult individuals, no one was free from dental caries. Approximately 25% had all their teeth affected with dental caries, and 35% from one to several teeth were missing. Of 34 adults, 16 had good occlusions, while 18 had fair occlusions, but with misplaced and rotated maxillary central incisors. Of the pre-adolescent

members of this group, 14 had good occlusions, and 32 were affected with malocclusions of varying degree; all of the latter had misplaced and rotated maxillary central incisors. Of a total of 80 individuals in Group 2, 50 or 82.5% were affected with maxillary central incisor misplacements. (Table 1.)"

TABLE 1--COMPARATIVE STUDY OF THE DENTAL OCCLUSION OF GROUPS 1 AND 2.

	Group 1. 67 Males		Group 2. 80 Males	
Class.	Adults 56	Pre-adolescent 11	Adults 34	Pre-adolescent 46
Good Occlusion	18	3	16	14
Rotated Max. 1st incisors. Bal. occl. fair-good.	47	5	18	32
Rotated Max. 1st incisors gen. mal-occlusion		3		

[Put above slip number 2, matching column rules.]

24: Wright--239
116, 164, 177, 262

(1938) 1942

Jivaro-2

[Match columns with slip No. 1]

4th mand. molars.	2			
Rotated Max. 1st incisors.	Total 55 or 82%	of Group 1.	Total 50 or 82.5%	of Group 2.

TABLE 2--COMPARATIVE STUDY OF TOOTH CAVITIES OF GROUPS 1 AND 2 (1).

Class.	Adults 56	Pre-adolescent 11	Adults 34	Pre-adolescent 46
Free from caries	32	9	3	
1 cavity	15	1		
2 cavities	1			
3 "	4		31	46
4 "	1			
5 "	3	1		

(comparative records)
25% of all had cavities in almost all teeth.
35% had missing teeth.

"1. [See following sheet for footnote]"

24: Wright--239 (1938) 1942 Jivaro-3
116, 164, 177, 262

"1. [Footnote 1, p. 239] It was impossible to tabulate Group 2 in detail except to show results of a cursory examination for a comparative study."

24: Wright--240 (1938) 1942 Jivaro
116, 164, 177, 262

"In comparing the dental conditions of the two groups [KS: in comparative study of teeth] the factor of misplacements of the maxillary central incisors is a persistent variable which is constant for both groups. With 82% in Group 1, and 82.5% in Group 2, there is a variance of only .5% for affected teeth, a curious coincidence. There is another factor to be noted, namely that of the wide variance of dental caries between the two groups. The change in food habits is undoubtedly responsible for the increase in dental caries in Group 2, but this change in environment does not alter the inherited tendency to variation in occlusion common to both groups."